

Appln No. 10/550,806
Amdt date July 24, 2008
Reply to Office action of January 24, 2008

REMARKS/ARGUMENTS

Claims 1-20 were pending in this application when last examined by the Examiner. Claims 1-3, 5, 6, 10-13, 15 and 16 have been amended. Claims 21-25 have been added. The amendments find full support in the original specification, claims, and drawings. No new matter has been added. In view of the above amendments and remarks that follow, reconsideration and an early indication of allowance of the now-pending claims 1-25 are respectfully requested.

The Examiner objects to the abstract of the disclosure for containing the phrase "improved data transmission." Applicant has amended the abstract to remove the word "improved." Withdrawal of the objection to the abstract is respectfully requested.

Claims 11-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Applicant has amended independent claim 11 as suggested by the Examiner to overcome this rejection. Withdrawal of the rejection of claims 11-20 under 35 U.S.C. 101 is respectfully requested.

Claims 1-3, 5-10, 11-13, and 15-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Bergsson et al (U.S. 2002/0071388). Applicant respectfully traverses this rejection.

Claim 1, as amended, recites: receiving by the sender from the receiver via the communications network a plurality of data transmission acknowledgements, each of the plurality of data transmission acknowledgements including an indication of an amount of data delivered to the receiver; generating by the sender a first connection rate estimate of network based on the indication of the amount of data delivered to the receiver in each of the plurality of acknowledgements; and setting by the sender a data transmission control parameter based on the first connection rate estimate. (Emphasis added). Bergsson fails to teach or suggest these limitations.

Bergsson discloses that a sending terminal may perform calculation of a throughput rate based upon messages that acknowledge receipt of the transmitted packets, if it determines that the receiving terminal is not able to do so. (See, par. 0043). However, nothing in Bergsson

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indicates that such calculation is "based on the indication of the amount of data delivered to the receiver" that is included in "each of the plurality of data transmission acknowledgments," as is now required by claim 1. Accordingly, claim 1 is now in condition for allowance.

Independent claim 11, as amended, includes limitations that are similar to the limitations of claim 1 which make claim 11 allowable. Accordingly, claim 11 is in condition for allowance.

Claims 2-3, 5-10, 12-13, and 15-20 are also in condition for allowance because they depend on an allowable base claim, and for the additional limitations that they contain.

Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergsson et al. in view of Banerjee et al. (U.S. Pub. No. 2002/0122385A1). Applicant respectfully traverses this rejection.

Claims 4 and 14 are in condition for allowance because they depend on an allowable base claim, and for the additional limitations that they contain. Specifically, claims 4 and 14 recite that "determining by the sender a cause of packet loss further comprises: calculating a ratio of expected throughput to achieved throughput; determining the cause of packet loss to be from congestion if the ratio exceeds a threshold value; and determining the cause of packet loss to be from data transmission errors if the ratio of expected to achieved throughput is below the threshold value." (Emphasis added). The Examiner acknowledges that Bergsson fails to disclose these limitations. However, he relies on Banerjee to make up for this deficiency.

Banerjee teaches calculating a "temperament parameter" and comparing it against a predetermined threshold value to determine error-induced losses or congestion losses. Banerjee's "temperament parameter," however, is not the claimed "ratio of expected throughput to achieved throughput." Instead, Banerjee's temperament parameter is based on the effective data rate over a wireless link, the round-trip time, and a random packet loss probability. (See, par. 0021). Specifically, the temperament parameter is calculated by taking the product of the packet loss probability and a square of the product of the effective data rate and the round-trip time. (See, par. 0016, lines 15-19). Accordingly, claim 4 and 14 are also in condition for allowance for their added limitations.

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Claims 21-25 are new in this application. Support for claims 21-24 may be found in various parts of the original application, including, for example, on page 4, lines 7-36; page 9, lines 22-33; page 10, line 25 - page 38; and page 13, lines 5-10, of Applicant's specification.

Claim 21 is a new independent claim that recites:

"receiving by the sender from the receiver via the communications network a plurality of data transmission acknowledgements;

generating by the sender a connection rate estimate based on one or more of the plurality of acknowledgments transmitted to the sender during a specified time interval;

generating by the sender a connection bandwidth estimate;

calculating an estimate of an achieved throughput based on the connection rate estimate;

determining a cause of packet loss based on a comparison of the estimate of the achieved throughput to an expected throughput;

selecting the connection rate estimate if the determining identifies a first cause of packet loss;

selecting the bandwidth estimate if the determining identifies a second cause of packet loss; and

setting a data transmission control parameter based on the selected estimate."

None of these limitations are taught nor suggested by the cited references. Accordingly, claim 21 is in condition for allowance.

Claims 22-25 are also in condition for allowance because they depend on an allowable base claim, and for the additional limitations that they contain. Specifically, 23 adds the limitation that "the connection rate estimate is based on one or more indications included in the one or more of the plurality of acknowledgements transmitted to the sender during the specified time interval, each of the one or more indications being an indication of an amount of data delivered to the receiver." As discussed above with respect to claim 1, Bergsson fails to teach or

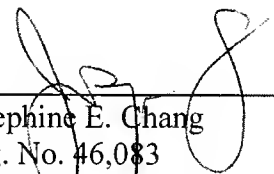
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suggest this limitation. Accordingly, claim 23 is also in condition for allowance for its added limitations.

Claim 25 adds the limitation that "the specific time interval is dynamically adapted based on a perceived network congestion level." Support for this limitation may be found on page 5, lines 15-22 of the specification. None of the cited references teach or suggest this limitation. Accordingly, claim 25 is also in condition for allowance for its added limitations.

In view of the above amendments and remarks, reconsideration and an early indication of allowance of the now-pending claims 1-25 are respectfully requested.

Respectfully submitted,
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